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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,019	01/30/2002	Peter Ho	10003431-1	2106

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EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/066,019	HO ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/30/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

a) In page 9 line 2 the recitation "the input cell 58" is improper; it is suggested to be changed to "the input cell 28" (see page 7 paragraph [0032] and page 8 paragraph [0033]).

b) In page 15 paragraph [0053] line 4 the recitation "f_0" is improper; it is suggested to be changed to "F_0" (see figures 10 and 12).

Appropriate correction is required.

Claim Objections

Claim 12 objected to because of the following informalities: the recitation in line 9 of claim 12 of "the equalization circuits"; is improper it is suggested to be changed to "the equalization circuitry", because equalization circuits is not mention previously. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8-14, 19-20 and 22-24 is rejected under 35 U.S.C. 102(e) as being anticipated by McCormack (US Patent Publication 20020020905 A1).

As per claim 1 McCormack discloses a crosspoint switch integrated circuit comprising an array of input ports (figure 1 block 301 page 2 paragraph [0037]); an array of output ports (figure 1 block 303 page 2 paragraph [0037]); a switch matrix configured to selectively connect the input ports to the output ports for conducting electrical signals therebetween (figure 1 block 101 page 2 paragraph [0037]); and equalization circuitry coupled to at least partially offset transmission losses experienced by the electrical signal while external to the crosspoint switch integrated circuit (figure 1 block 201 page 2 paragraph [0037]).

As per claim 2 McCormack discloses that the equalization circuitry is configured to measure jitter within the electrical signals and to utilize jitter measurements as a basis for offsetting the transmission losses, the equalization circuitry being adaptive circuitry enabled to automatically select levels of equalization (figure 1 block 201 page 1 paragraph [0008] page 2 paragraph [0037] and page 4 paragraph [0054]).

As per claim 3 McCormack discloses the equalization circuitry includes a plurality of adjustable equalizers, the adjustable equalizers each having adjustable filtering characteristics within a fixed number of equalization settings (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 4 McCormack discloses that each the adjustable equalizer includes a plurality of switchable connections which individually adjust the filtering characteristics when activated (figure 4 page 4 paragraph [0057]).

As per claim 5 McCormack discloses that each the switchable connection includes a switch, at least some of the switchable connections including at least one component which significantly affects the filtering characteristics when the switchable connections are individually activated (figure 4 page 4 paragraph [0057]).

As per claim 6 McCormack discloses that at least some of the switchable connections are arranged in electrical parallel and the components include capacitors and resistors (figure 4 page 4 paragraph [0057]).

As per claim 8 McCormack discloses that the switches are transistors and the components include at least some of resistors, capacitors, or inductors (figure 4 page 4 paragraph [0057]).

As per claim 9 McCormack discloses that the adjustable equalizers are coupled to the input ports in one-to-one correspondence (figure 2 block 21 page 4 paragraphs [0051] to [0056] and figure 4 page 4 paragraph [0057]).

As per claim 10 McCormack discloses that the equalization circuitry is fixed with respect to providing levels of equalization to the electrical signals received at the input ports (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 11 McCormack discloses that the equalization circuitry includes a dedicated circuit for each the input port, the dedicated circuits being configured to provide one of a number of the levels of equalization, wherein the level of equalization of a specific the dedicated circuit is tailored on a basis of anticipated transmission loss for electrical signals received via the input port to which the dedicated circuit is dedicated (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 12 McCormack discloses a crosspoint switching arrangement comprising a plurality of input ports connected to channels having non-uniform frequency responses with respect to incoming signal transmissions (figure 1 block 301 page 2 paragraph [0037]); a plurality of output ports connected to channels having non-uniform frequency responses with respect to outgoing signal transmissions (figure 1 block 303 page 2 paragraph [0037]); a switch matrix enabled to dynamically reconfigure connections of the input ports to the output ports (figure 1 block 101 page 2 paragraph [0037]); and equalization circuitry coupled to one of the input and output ports, the equalization circuits having filtering characteristics that are tailored on a basis of the frequency responses of the channels to which the specific ones of the input and output ports are connected (figure 1 block 201 page 2 paragraph [0037]).

As per claim 13 McCormack discloses that the equalization circuitry is an adaptive equalizer configured to automatically tailor the filtering characteristics (figure 1 block 201 page 1 paragraph [0008] page 2 paragraph [0037] and page 4 paragraph [0054]).

As per claim 14 McCormack discloses a memory configured to store equalization settings for the equalization circuitry, the equalization circuitry including a separate equalization circuit for each the channel for which equalization is to be applied, each the equalization circuit having adjustable the filtering characteristics within a fixed number of available configurations, the equalization settings stored at the memory including a selection of a particular available the configuration for each the equalization circuit (figure 4 page 4 paragraph [0057]).

As per claim 19 McCormack discloses a method of providing equalization for a crosspoint switch comprising determining signal characteristics related to signal transmissions via each of a plurality of ports of the crosspoint switch (figure 2 block 21 page 1 paragraph [0011] and page 4 paragraphs [0051] to [0056]); and setting equalization circuitry housed within the crosspoint switch such that each the port has filtering characteristics tailored on a basis of the signal characteristics for the signal transmissions via the each port (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 20 McCormack discloses selectively activating and deactivating switching devices which introduce parallel connections of resistances and capacitances within the adjustable equalization circuitry, the equalization circuitry being a plurality of adjustable equalization circuits (figure 4 page 4 paragraph [0057]).

As per claim 22 McCormack discloses activating adaptive equalization circuitry (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 23 McCormack discloses entering equalization settings into an integrated circuit chip in which the equalization circuitry and a switch matrix reside (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

As per claim 24 McCormack discloses monitoring jitter at outputs of the crosspoint switch (figure 2 block 21 page 4 paragraphs [0051] to [0056]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 15-18 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over McCormack (US Patent Publication 20020020905 A1) as applied to claim 12 above, and further in view of Yiu (US 6104750 A).

As per claim 7 McCormack discloses claim 5. McCormack discloses that the tap, therefore, includes a capacitance and inductance (page 3 paragraph [0044]). McCormack doesn't disclose that the switchable connections are arranged in electrical parallel and the components include an inductor and a resistor. Yiu discloses that the switchable connections are arranged in electrical parallel and the components include an inductor and a resistor (figures 3 and 8 column 6 lines 27-45). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 7.

As per claim 15 McCormack discloses claim 12. McCormack discloses that each the equalization circuit includes a default configuration of first connected circuit components and a plurality of alternative configurations, the default configuration achieving a first level of frequency-dependent compensation (figure 2 block 21 page 4 paragraphs [0051] to [0056]). McCormack doesn't disclose the compensation for effects of skin loss in signals conducted via the channels. Yiu discloses the compensation for

effects of skin loss in signals conducted via the channels (figure 4A column 4 line 66 to column 5 line 8). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 15.

As per claim 16 McCormack and Yiu disclose claim 15. Yiu also discloses that each of the alternative configuration introduces second connected circuit components to achieve different levels of frequency-dependent compensation for the effects of skin loss (figure 4A and figures 3 and 8 column 4 line 66 to column 5 line 8 and column 6 lines 27-45). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 16.

As per claim 17 McCormack and Yiu disclose claim 16. McCormack also discloses that the second connected circuit components are coupled to switches that selectively introduce the second connected circuit components, the switches being

manipulated based upon the equalization settings stored in the memory (figure 4 page 4 paragraph [0057]). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 17.

As per claim 18 McCormack and Yiu disclose claim 17. McCormack also discloses that the equalization circuits are coupled to the input ports and are individually adjustable from an exterior of an integrated circuit chip package in which the equalization circuits and switch matrix reside (figure 2 block 21 page 4 paragraphs [0051] to [0056]). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 18.

As per claim 21 McCormack discloses claim 19. McCormack discloses selectively activating and deactivating switching devices (figure 4 page 4 paragraph [0057]). McCormack doesn't disclose series connections of resistances and inductances

within the adjustable equalization circuits. Yiu discloses series connections of resistances and inductances within the adjustable equalization circuits (figures 3 and 8 column 6 lines 27-45). McCormack and Yiu are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in equalized switching matrix disclosed by McCormack skin effect disclosed by Yiu. The suggestion/motivation for doing so would have been to provide equalizing the frequency response of a transmission line is provided (Yiu abstract). Therefore, it would have been obvious to combine McCormack with Yiu to obtain the invention as specified in claim 21.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
05-09-2005

M. G

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SUPERVISORY PATENT EXAMINER